ECOLOGY OF EARLY SYPHILIS PATIENTS: A STUDY OF EIGHTY CASES

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Summary

80 early syphilis patients were studied in detail regarding their age, source of infection, occupation, education, marital status, income and previous venereal infection.

Incidence of sexually transmitted disease was 2.7% of which 26.6% cases had early syphilis. Male to female incidence was 10.4 : 1. In males, 27.4% and 30.2% were in the teenage and young adult (20–24 years) groups respectively. Among males 60.3% were unmarried, while 32.8% were married. Widowers and divorcees constituted the rest. Prostitutes and homosexuals were the major sources of infection in 45.2% and 27.4% males respectively. 52% were from low socio-economic class, 26% from middle income group while no patient was from high socio-economic status. 21.9% were from no-income group. 63.2% were labourers, 17.8% unemployed and 4.2% students. 60.5% were illiterate and 15.3% cases had other associated sexually transmitted diseases. 32.8% had history of past venereal infection.

Among females, 4 (57.1%) acquired infection from their husbands; 1 (14.3%) had middle school education; 2 (28.6%) had other associated S.T.D. and none had history of past venereal infection.

Multiple and complex factors; social economic and psychological operate in acquisition and spread of syphilis and other sexually transmitted diseases. Sexual promiscuity and prostitution are important twin social evils.

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In view of the rapidly changing socio-economic and ecological factors in the space age and the global rise of syphilis and other STD, a study was undertaken to find out correlation between acquisition of syphilitic infection and the multiple complex factors mentioned above.

Material nd Methods

A total of 80 proved cases of early syphilis (primary, secondary and early latent) who attended the Sexually Transmitted Diseases Clinic of the Department of Dermatology and Venereology, Maulana Azad Medical College & Associated J. P. Hospital, New Delhi from May 1976 to February 1977 were picked up at random for the purpose of study. Out of these, 73 were males and 7

females. All the patients were subjected to detailed history with particular reference to the duration of illness, source of infection, age, occupation, income, education and marital status. The history also included past treatment, previous infection and the health of the consorts.

Observations and Comments

1. *Incidence of early syphilis*

During the period of study 22,524 new patients attended the Skin OPD of this hospital. Out of these there were 609 (2.7%) new cases of sexually transmitted diseases, of which 162 (26.6%) cases were diagnosed as having early syphilis. The various stages of early syphilis are shown in Table 1.

2. *Sex distributions*

The male and female ratio of 162 early syphilis patients attending the clinic during the period of study was 8.9 : 1. The corresponding ratio among the 80 cases studied was 10.4 : 1. Several factors are responsible for this gross disparity in the sex ratio of syphilis patients. Higher male to female ratio of 5.1 : 1 has been observed even in an advanced country like Britain where contact tracing is effectively carried out[8]. It is an acknowledged fact that lesion of syphilis in female is less common than in male[5],[11]. Moreover, in our country, due to social customs, females still avoid attending public service clinics.

3. *Age-Sex distribution*

The sex and age distribution are shown in Table II. The male patients in the teenage group were 20 (27.4%), the incidence ranking second : the maximum 22 (30.2%) cases being in the age group of 20-24 years. Earlier, the incidence of teenage syphilis was reported as 25%[10]. The third major group constituted 17 (23.3%) cases in the age group of 25-29 years. Of the remaining male cases, 5 (6.8%) cases were in

TABLE 1
Stage of disease in 80 cases of early syphilis.

	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
Primary syphilis						
Seronegative	5	6.85	–	–	5	6.25
Seropositive	15	20.55	1	14.3	16	20.0
Secondary syphilis	48	65.75	5	71.4	53	66.25
Early latent syphilis	5	6.85	1	14 3	6	7.5
Total	73	100	7	100	80	100

TABLE 2
Age—Sex distribution of 80 cases of early syphilis.

Age in years	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
11—12	2	2.7	–	–	2	2.5
13—19	20	27.4	–	–	20	25.0
20—24	22	30.2	1	14.3	23	28.75
25—29	17	23.3	2	28.6	19	23.75
30—34	5	6.8	3	42.8	8	10.0
35—39	3	4 2	1	14.3	4	5.0
40—44	2	2.7	–	–	2	2.5
45 and above	2	2.7	–	–	2	2.5
Total	73	100	7	100	80	100

30-34 years group, 3 (4.2%) in 35-39 years group and 2 (2.7%) cases each in 40-44 years and 45 and above age groups. 2 (2.7%) cases of acquired syphilis were observed among male children of 11-12 years of age.

In the female series, 3 (42 8%) cases were in the age group of 30-34 years, 2 (28.6%) in 25-29 years group, while 1 (14.3%) case each was in age group of 20-24 and 35-39 years. No teenage female was observed in the present study. The youngest and the oldest male patients were aged 11 and 51 years and in female series they were 20 and 35 years respectively.

4. *Marital Status*

Table III shows the marital status in both sexes. Out of 73 males, 44 (60.3%) were unmarried and 24 (32.8%) married, while widower and divorcee constituted 4 (5.5%) cases and 1 (1.4%) case respectively. In the female series, 4 (57.1%) cases were married, while 1 (14.3%) case each belonged to the group of unmarried, widow and divorcee.

5. *Source of infection*

Table IV shows the source of infection in both sexes. In the male series, 33 (45.2%) cases acquired infection from prostitutes, 4 (5.5%) from casual acquaintances, 2 (2.7%) from known acquaintances and 1 (1.4%) from marital source, while in 13 (17.8%) exact source of infection could not be known. Prostitutes played an imporant role in infecting 45.2% males. Declining role of prostitutes in Britain from 31% in 1961 to 14% in 1969 was observed[3]. This may be due to the fact that, in western countries the major sources of infection are call girls, good time girls and pick up girls which are only defined names of prostitutes.

TABLE 3

Marital status of early syphilis cases in both sexes.

Marital Status	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
Unmarried	44	60.3	1	14.3	45	56.25
Married	24	32.8	4	57.1	28	35.00
Widower/widow	4	5.5	1	14.3	5	6.25
Divorcee	1	1.4	1	14.3	2	2.50
Total	73	100	7	100	80	100

TABLE 4

Source of infection in both sexes in 80 cases of early syphilis.

Source of infection	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
Regular consort :						
Wife/husband	1	1.4	4	57.1	5	6.25
Known acquaintance	2	2.7	—	—	2	2.5
Prostitute	33	45.2	—	—	33	41.25
Casual acquaintance	4	5.5	2	28.6	6	7.5
Homosexuals :						
Active	4	5.5	—	—	4	5.0
Passive	16	21.9	—	—	16	20.0
History of contact denied	13	17.8	1	14.3	14	17.5
Total	75	100	7	100	80	100

Homosexuality was observed in 27.4% males of which 21.9% were passive and 5.5% active agents. Homosexuality among male syphilitic was observed to be 42.4% in Britain[2].

In the female series, 4 (57.1%) cases acquired infection from their husbands, 2 (28.6%) from casual acquaintances. One (14.3%) case, a widow, denied any history of sexual contact.

6. *Socio-economic status*

The socio-economic status in both sexes is shown in Table V. A total of 20 (25%) cases had no source of income. In the male series, 38 (52%) cases were from low income group, 19 (26%) from middle income group, while no patient was found in the high income group.

Highest incidence (50%) of early syphilis was seen in low socio-economic group which has also been observed by others[9]. But it is also possible that people with high socio-economic status, because of the stigma attached to the venereal diseases, go to private practitioners, instead of reporting to public hospitals.

7. *Occupational status*

Table VI shows the occupational status in both sexes. In the female series, 4 (57.1%) cases were housewives, 2 (28.6%) were unskilled labourers and 1 (14.3%) was a prostitute. In the male series, equal number of 23 (31.6%) cases were skilled and unskilled labourers, 13 (17.8%) were unemployed and 6 (8.2%) were businessmen, 3 (4.2%)

TABLE 5

Socio-economic status in both sexes in 80 cases of early syphilis

Income in rupees/month	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
No income	16	21.9	4	57.1	20	25.0
Less than 100	8	11.0	—	—	8	10.0
101 — 199	13	17.8	1	14.3	14	17.5
200 — 299	17	23.3	1	14.3	18	22.5
300 — 999	19	26.0	1	14 3	20	25.0
Total	73	100	7	100	80	100

In the female series, 2 (28.6%) cases were from low income group, 1 (14.3%) from middle income group, while no patient was from high income group. The maximum and minimum income in the male series were Rs. 600/- and Rs. 75/- per month respectively and in female series were Rs. 300/- and Rs. 150/- per month respectively. The following criteria were used for different economic status :

Low income group - upto Rs. 299/- per month ;

Middle income group between Rs. 300/- and Rs. 999/- per month ;

High income group - above Rs. 1000/- per month

cases each were salesmen and students and 2 (2.7%) were office workers. 63.2% male patients were from labour class. Ayyanger[6] observed syphilis in 44.2% of them. The higher incidence in the present study may be related to population explosion, rapid urbanisation and industrialization of the country in the last 20 years. Perhaps an equally important factor is that sex is the cheapest source of recreation among the poor labourers and unemployed section of population.

8. *Educational status*

Table VII shows the educational status in both sexes. A total of 50 (62.5%) cases in both sexes were illiterate. Illiteracy among male and female

TABLE 6
Occupational status of both sexes in 80 cases of early syphilis

Occupation	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
Skilled workers	23	31.5	—	—	23	28.75
Unskilled workers	23	31.5	2	28.6	25	31 00
Unemployed	13	17.8	—	—	13	16.5
Businessmen	6	8.2	—	—	6	7.5
Salesmen	3	4.2	—	—	3	3.75
Students	3	4.2	—	—	3	3.75
Office workers	2	2.7	—	—	2	2.5
House-wives	—	—	4	57.1	4	5.0
Prostitutes	—	—	1	14.3	1	1.25
Total	73	100	7	100	80	100

patients were 60.5% (44 cases) and 85.7% (6 cases) respectively. In the male series, 3 (4.2%) had primary education, 6 (8.2%) middle school, 15 (20.6%) high school and 5 (6.8%) college education. Only one (14.3%) female had middle school education. Higher incidence of illiteracy among syphilis patients has been observed by others[1,7].

9. *Associated sexually transmitted diseases (STD)*

Associated S. T. D. discovered in both sexes are shown in Table VIII. 3 (16.25%) cases were associated with one or other S. T. D. 20% of gonorrhoea patients with other S. T. D. were reported earlier from this institution[4]. In male series, 4 (5.5%) had associated

TABLE 7
Educational status of both sexes in 80 cases of early syphilis

Education	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
Illiterate	44	60.2	6	85.7	50	62.5
Primary education	3	4.2	—	—	3	3.75
Middle school	6	8.2	1	14.3	7	8.5
High School	15	20.6	—	—	15	19.0
College	5	6.8	—	—	5	6.25
Total	73	100	7	100	80	100

TABLE 8
Associated S.T.D in both sexes

Associated other S.T.D.	Male cases		Female cases		Total cases	
	No.	%	No.	%	No.	%
Scabies	4	5.5	—	—	4	5.0
Chancroid	3	4.2	—	—	3	3.75
Donovanosis	1	1.4	1	14.3	2	2.5
Gonococcal Urethritis with epididymitis	1	1.4	—	—	1	1.25
Herpes Progenitalis	1	1.4	—	—	1	1.25
Venereal wart	1	1.4	—	—	1	1.25
Trichomoniasis (T. V.)	—	—	1	14.3	1	1.25
Total	11	15.3	2	28.6	13	16.25

scabies, 3 (4.2%) chancroid and 1 (1.4%) each gonococcal urithritis with epididymitis, Donovanosis, herpes progenitalis and venereal wart. In females, 2 (28.6%) had other S. T. D. of which one was trichomonas vaginitis and other Donovanosis.

10. *Earlier venereal infection*

24 male cases (32.8%) had earlier venereal infection while no female had such history.

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References

1. Bhargava NC and Singh OP: Prevalence of syphilis in different classes of population, Indian J Derm Vener, 40 : 215, 1974.
2. British Cooperative Clinical Group : Homosexuality and V.D. in U.K. Br J Vener Dis, 49 : 329, 1973.
3. Dunlop EMC, Lamb AN and King DM: Improved tracing of contacts of homosexual man with gonorrhoea Br J Vener Dis, 47: 192, 1971.
4. Krishna Murthy T: A clinico-laboratory study of gonorrhoea with special reference to in vitro sensitivity of Neisseria gonorrhoea towards antibiotics, particularly penicillin, thesis submitted to Delhi University, 1973.
5. Moore JE: Modern treatment of syphilis, Charles C Thomas 2nd Ed Springfield, Illinois, 1943.
6. Rama Ayyanger MC: A study on the incidence and pattern of venereal disease at Madura, Indian J Derm Vener 25: 139, 1959.
7. Rao YS and Rao MV: Prevalence of VD RL positivity in an urban community, Indian J Derm Vener, 40 : 195, 1974.
8. Report of Chief Medical Officer for 1974, Br J Vener Dis, 52: 351, 1976.
9. Seth TR: Socio-physical factors and incidence of VD, Indian J Derm Vener, 36 : 93, 1970.
10. Singh R : Pattern of venereal diseases as seen at the VD training and Demonstration Centre, Safdarjung Hospital, New Delhi, Indian J Derm Vener, 28 : 62, 1962.
11. Stokes JH, Beerman H and Ingraham NR : Modern Clinical Syphilology, W. B. Saunders & Co. 3rd Ed. Philadelphia & London, 1945.